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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,881	04/28/2001	Bharti Temkin	12001-104	1751

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EXAMINER	
NGUYEN, KEVIN M	

ART UNIT	PAPER NUMBER
2674	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/844,881	TEMKIN ET AL.	
	Examiner	Art Unit	
	Kevin M. Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 2-6 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 2-6 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/24/2005 has been entered. An action on the RCE follows:

Specification

2. The disclosure is objected to because of the following informalities: "The switiching" at page 6, line 26 should be corrected "The switiching" due to typo.

It is in the best interest of the patent community that applicant, in his/her normal review and/or rewriting of the specification, to take into consideration these editorial situations and make changes as necessary.

3. Applicant's arguments, see page 11, filed 01/24/2005, with respect to the rejection(s)of claim(s) 2-6 under the statutory basis for the previous rejection have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art references.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dumoulin et al (newly cited, US 5,526,812) in view of Funda et al (newly cited, US 5,749,362).

5. As to claim 2, Dumoulin et al teach a stereo display system associated with a method, the stereo display system comprising:

The synchronization processes are defined by

For both embodiments of the invention the computer image must be registered (coincide) with the external structures as viewed by operator 350. Initialization may be accomplished by manual input from the operator to rotate, translate and scale the computer generated image(s) until they coincide with the scene observed through the semi-transparent screen, or by employing tracking device 50 to set initial parameters.

Once the 3D model and the visual image of patient 1 are aligned, tracking device 50 keeps the view angles and field of view consistent. This allows real-time interactive synchronization between the operator's view of patient 1 and the computer generated image(s) (see figs. 1 and 2, col. 6, lines 6-18).

Thus, the synchronization processes are defined by a stereoscopic viewer (252) (fig. 2, stereo graphics) and the workstation view input device (60) (fig. 2, scene components).

Dumoulin et al further teach the workstation view input device (60) may be any input device (col. 4, lines 39-40).

Accordingly, Dumoulin et al teach all the subject matter claimed except for the use of an input device instead of a haptic scene input device.

However, the input device and the haptic scene input device have been recognized in the art as equivalent as evidenced by Funda et al. Funda et al expressly teach that the benefit of using a haptic scene input device is defined by a method of relaying non-visual information to the surgeon is tactile feedback, which positioned a graphical object (detecting of virtual object) and vibrating with appropriate frequency and amplitude (determining and applying the tactile feedback) (col. 16, lines 53-65). Thus, the haptic scene input device/haptic scene components are defined by detection of virtual object and determination/application of the tactile feedback. "The surgeon wears stereoscopic liquid crystal (LC) goggles 273" and "a method of relaying non-visual information to the surgeon is tactile feedback, which positioned a graphical object (detecting of virtual object)", that defined the user views the 3-D graphics and haptics scene components.

Therefore, it would have been obvious to one of ordinary skill in the art to replace the input device in Dumoulin et al with the haptic scene input device of Funda et al to achieve the benefit of improving the quality of the 3D graphic is readily discernible, while do not distract him from his positioning task or otherwise interfere with his work as taught by Funda et al (col. 16, lines 65-67).

Moreover, where the claimed differences involve substitution of interchangeable equivalents and the reason for the selection of one equivalent for another was not to

solve an existent problem such substitution has been judicially determined to have been obvious. See In re Ruff, 118 USPQ 343 (CCPA 1958).

6. As to claim 3, Funda et al teach tactile feedback conveyed to the surgeon through a hand-held or instrument-mounted input device (such as a joystick) can be used to alert the surgeon that he has positioned a graphical object or a surgical instrument in the vicinity of the current anatomical feature of interest. The tactile feedback can be delivered to the surgeon's hand or finger (whichever is in contact with the joystick) by instrumenting the joystick control with a computer controlled vibrator (col. 16, lines 55-63).

7. As to claim 4, Funda et al teach a graphical object (detecting of virtual object) tactile feedback conveyed (duplicated the force) to the surgeon through a hand-held or instrument-mounted input device (such as a joystick) can be used to alert the surgeon that he has positioned a graphical object (an actual object).

8. As to claim 5, Dumoulin et al teach the computer image must be registered (coincide) with the external structures as viewed by operator 350. Initialization may be accomplished by manual input from the operator to rotate, translate and scale the computer generated image(s) until they coincide with the scene observed through the semi-transparent screen, or by employing tracking device 50 to set initial parameters.

Once the 3D model and the visual image of patient 1 are aligned, tracking device 50 keeps the view angles and field of view consistent. This allows real-time interactive synchronization between the operator's view of patient 1 and the computer generated image(s) (col. 6, lines 6-18).

Thus, the synchronization processes are defined by a stereoscopic viewer (252) (fig. 2, stereo graphics) and the workstation view input device (60) (fig. 2, scene components).

Dumoulin et al further teach the workstation view input device (60) may any input device (col. 4, lines 39-40).

Funda et al teach a method of relaying non-visual information to the surgeon is tactile feedback, which positioned a graphical object (detecting of virtual object) and vibrating with appropriate frequency and amplitude (determining and applying the tactile feedback) (col. 16, lines 53-65). Thus, haptic scene components are defined by detection of virtual object and determination/application of the tactile feedback.

9. As to claim 6, Dumoulin et al teach "a stereoscopic viewer 252 is synchronized to the sequencer 198 and operates to block the vision of the operator's left or right eye allowing the opposite eye to view the image on semi-transparent screen 250 for an instant and vice-versa. This allows operator 350 to see the left image with the left eye while the right eye sees nothing and the right image with the fight eye while the left eye sees nothing in rapid succession" (col. 5, lines 59-66). Thus, different images left eye and right eye define the interlacing video display and buffered delivery of image data to different data lines.

Funda et al teach a method of relaying non-visual information to the surgeon is tactile feedback, which positioned a graphical object (detecting of virtual object) and vibrating with appropriate frequency and amplitude (determining and applying the tactile

feedback) (col. 16, lines 53-65). Thus, haptic scene components are defined by detection of virtual object and determination/application of the tactile feedback.

Response to Arguments

10. Applicant's arguments with respect to claims 2-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Nguyen whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 8:00-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the Patent Application Information Retrieval system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Nguyen
Patent Examiner
Art Unit 2674

KMN
February 1st, 2005

XIAO WU
PRIMARY EXAMINER